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ABSTRACT

Pattern manifests itself in many ways through properties such as symmetry, repetition, translation, and illusion. This guide, appropriate for use with grades 6-12, presents patterns that are formed entirely by straight lines, yet appear to contain or be formed by curves. Exploring these geometrical shapes offers an opportunity to discover various properties of geometry as well as exercise creative expression. The book is organized in 12 chapters: (1) "Introduction"; (2) "Curves from Segments in an Angle"; (3) "Pencil, Thread, String, or Computer?"; (4) "Designs from Combined Angles"; (5) "Designs from Inscribed Polygons"; (6) "Designs from Diagonals and Chords"; (7) "Overlapping Designs"; (8) "Design Effects from Shading"; (9) "Rotating Geometric Shapes"; (10) "Combining Techniques--Getting Creative"; (11) "Mathematical Relationships"; (12) "Moire Patterns." Illustrated examples, diagrams, and instructions are given for creating designs and design variations. Reproducible student sheets and a bibliography are included. (MM)

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